

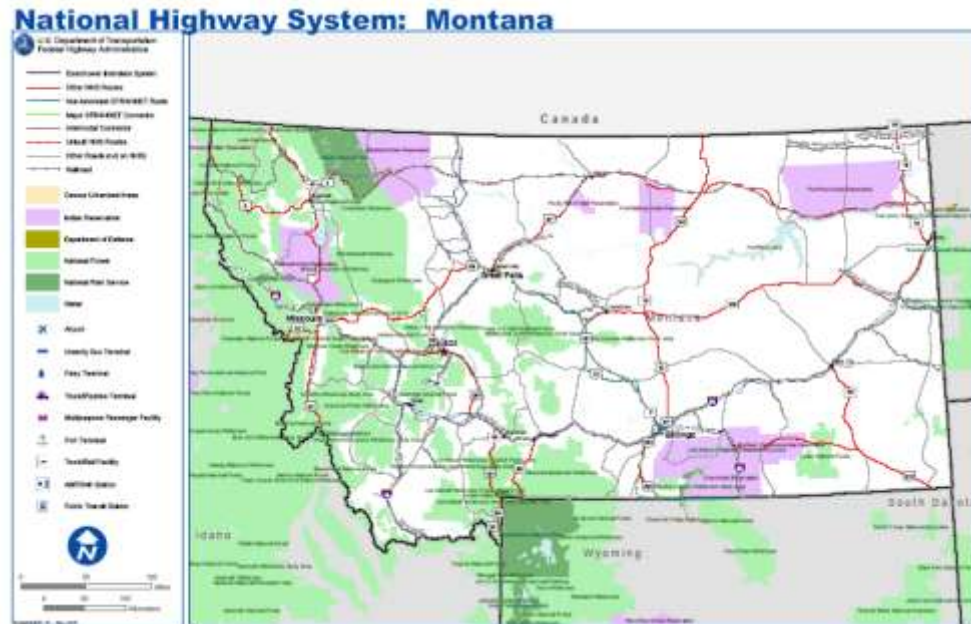
# Montana Driver Education and Training

## Strategies for Managing Risk with Vehicle and Highway Designs Part I



# DEFINING RISK

For more than 100 years, the Federal Highway Administration (FHWA) and state and local departments of transportation have partnered to build the nation's highways; almost four million miles of road providing mobility to American travelers



# DEFINING RISK

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The National Highway Traffic Safety Administration (NHTSA) is the agency of the Department of Transportation that conducts crash tests of new vehicles to determine the level of protection for drivers and passengers during frontal and side impact crashes



Source: NHTSA

# DEFINING RISK

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In response to increasing public concern about automobile safety, many manufacturers are designing vehicles that incorporate crash protection and safety features beyond the minimum federal standards



# DEFINING RISK

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**Driving is a high-risk activity**

- **A crash occurs every five seconds**
- **Property damage occurs every seven seconds**
- **Injury occurs every 15 seconds**
- **Fatalities occur every 14 minutes**





# DEFINING RISK

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**Motor vehicle crashes are the leading cause of death for teen-agers ages 15-20**



Source: Oregon Department of Transportation

# DEFINING RISK

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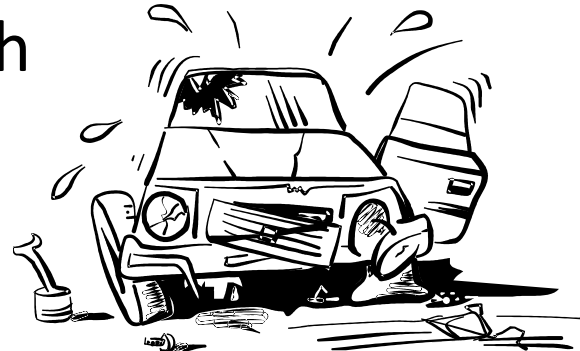
- 77% of all drivers have no idea of the level of risk they take when driving
- 83% of all drivers think they have total control of their vehicle



# DEFINING RISK

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- When drivers feel they have a lot of control in preventing collisions, it follows that they neither see themselves at risk nor see a need to follow safety precautions
- 83% of all drivers in a study saw themselves at minimal risk in a collision
- 91% of the drivers said it would not be their fault if they were involved in a crash







## Crime, Crash, and Arrest Clock

### Crime

**1** murder  
every **31** minutes

**1** violent crime  
every **22.4** seconds

**1** aggravated assault  
every **36.8** seconds

### Crash

**1** traffic fatality  
every **14** minutes

**1** traffic injury  
every **13** seconds

**11** law enforcement reported crashes  
every **1** minute



### Estimated Arrests

every **1** hour

- 167** DUI arrests
- 51** aggravated assault arrests
- 70** violent crimes arrests
- 14** robbery arrests
- 2** murder arrests

Figures are rounded and represent the average per unit of time.  
Data sources:

Crime- from U.S. Department of Justice - Federal Bureau of Investigation (DOJ/FBI) 2006 Crime Clock, *Crime in the United States 2006*, September 2007

Crashes- from U.S. DOT's NHTSA, *Traffic Safety Facts 2008 Data, Overview*, and 2008 Fatality Analysis Reporting System, General Estimates System 2008 Data Summary

Estimated Arrests- from DOJ/FBI, *Crime in the United States 2006*, September 2007 (rounded)



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

[www.StopImpairedDriving.org](http://www.StopImpairedDriving.org)



May 2011



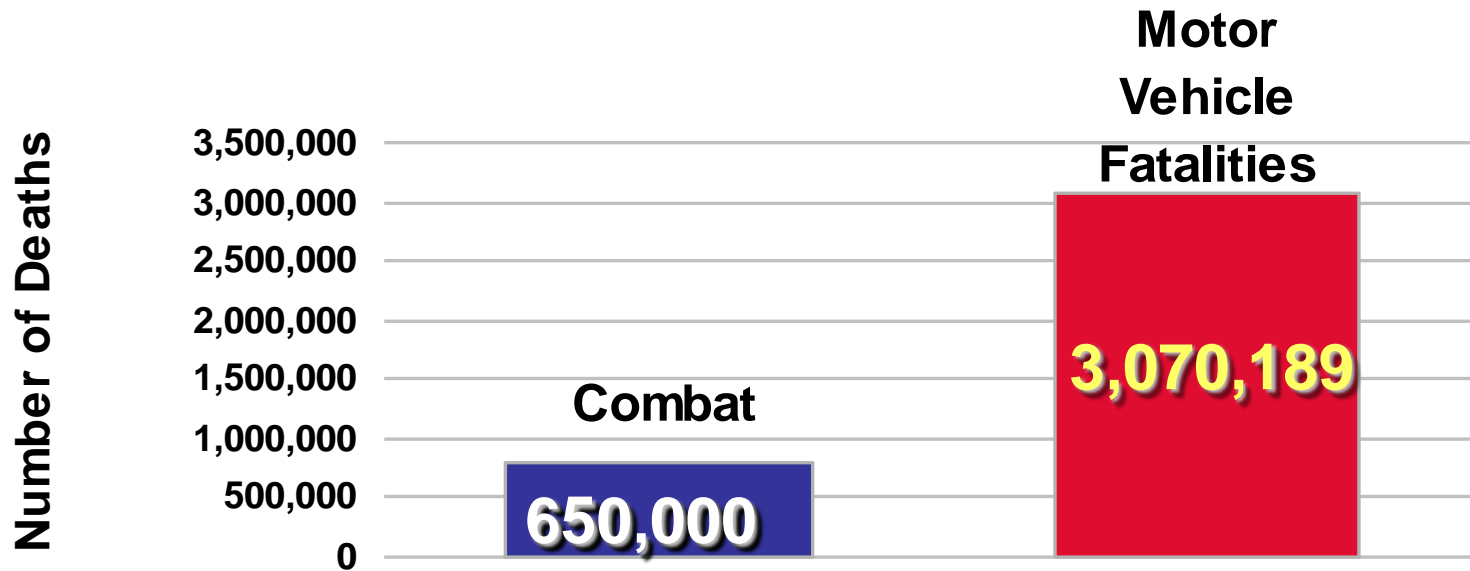
# **Septemer 11, 2001 Occurs Every 25 Days On Our Nation's Highways**





# Americans Killed in Combat VS.

## Motor Vehicle Fatalities



Combat Deaths 1775-2003; Motor Vehicle Fatalities 1900-1999

# Fatality Statistics



32,885 people were killed in U.S. traffic crashes in 2010

More than 5,000 fatalities in 2010 were teens (ages 16 - 20)

Montana traffic fatalities dropped more than 14% in 2010 with 189 fatalities in 161 fatal crashes

The fatality rate is declining but how can we accept over 32,000 dead and 2.24 million people injured in traffic crashes each year?

# Our Nation's Traffic Fatalities

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- Mile for mile, teens are involved in three times as many fatal crashes as all other drivers.
- In 2010 the use of seat belts saved an estimated 12,546 lives.

# DEFINING RISK—Driver Behavior

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90% of fatal crashes are the results of driver behavior

21% of those crashes are attributed to aggressive driving

90% of the fatalities could have been avoided if the driver had reacted one second earlier





# DEFINING RISK—Driver Research

50% of all rear-end and intersection related collisions  
and 30% of oncoming traffic collisions could have  
been avoided had the driver recognized danger  
**1/2 second** earlier and reacted correctly



# Motor Vehicle Crashes and Teens

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- Motor vehicle crashes are the **LEADING** cause of death for teen-agers ages 15-20
- Teen-age drivers ages 15-20 account for **6.4%** of all licensed drivers of all ages, but account for **12%** of all drivers involved in fatal crashes



# TEEN DRIVERS: Driving Behaviors

A study of *Specific Driving Behavior Deficiencies of 16-Year- Olds that Cause Crashes* (McKnight 2002)

- 1) Attention 23%
- 2) Adjusting speed 20.8%
- 3) Searching ahead 19.1%
- 4) Searching to the side 14.2%
- 5) Maintaining space 9.8%
- 6) Tie search to rear/  
emergencies 9.4%



Source: Naval Safety Center

# Teen Driver Facts

**Most teens take driving seriously and act responsibly behind the wheel**



- The greatest lifetime chance of crashing occurs in the first 6 months after licensure
- One in five ninth through 11th graders has been involved in at least one crash as a passenger in the past year.

# Distractions

## Passenger Research on Teen Driving



Your teen  
one passenger

**doubles**  
the fatal crash risk  
for drivers 16-19 years of age.



**3+ passengers quadruples (4x)  
the crash risk for 16-19 year olds.**



# Crash Costs

Crashes involving teen drivers ages 15 to 17 annually cost billions -

**\$34,000,000,000**

**Including medical expenses, lost work, property damage, quality of life loss  
and other related costs**

AAA 2006 analysis





# Teen Driver Facts

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- The fatal crash rate for drivers ages 16 to 19, based on miles driven, is four times higher than for drivers ages 25 to 69.
- In 2009, of the young drivers who had been drinking and were killed in crashes, 60% were not wearing safety belts
- 33% of young drivers killed in fatal crashes in 2009 had a BAC of 0.01 or higher



# Teen Driver Facts

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- Male drivers spend an average of 81 minutes a day driving
- If a male receives his license at age 16 and drives for 60 years, he will drive 29,565 hours in his lifetime
- That is a equivalent to driving 24 hours a day for 1,232 days or 3.375 years of his life

Source: USA Today USA Snapshots-10/12/98



# Teen Driver Facts

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- Female drivers spend an average of 64 minutes a day driving
- If a female receives her license at 16 and drives for 60 years, she will drive 23,360 hours in her lifetime
- That is equivalent to driving 24 hours a day for 973 days

Source: USA Today USA Snapshots-10/12/98

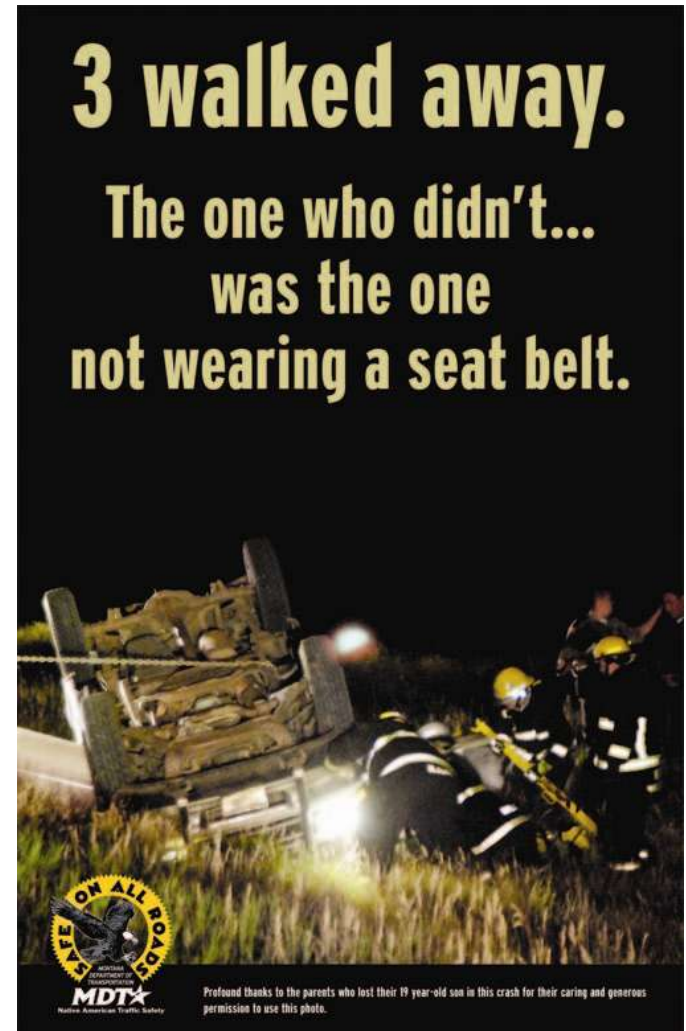


Source: AAA Foundation

# Control Exposure To Risk

**Seat Belts** are the most effective means of reducing fatalities and serious injuries when traffic crashes occur

- Estimated to save over 12,000 lives in America each year
- Lap/shoulder belts, when used properly, reduce the risk of fatal injury to front seat passenger car occupants by 45% and the risk of moderate-to-critical injury by 50%



# Control Exposure To Risk

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**Use the ten good driving habits to reduce risk:**

1. Driver vehicle readiness
2. See clear path before moving
3. Keep the car in balance
4. Use Reference Points
5. Do Line-of-Sight  
Path-of-Travel searching
6. Turn decisions into actions
7. Control the intersection
8. Get rear zone control
9. Control the front vehicle
10. Be courteous to others

